

## **STATE OF IOWA – DUBUQUE**

**(A. Y. McDonald)**

**(Dubuque, Iowa)**

### **GENERAL DESCRIPTION**

The site is located in Section 19, T89N, R3E and Section 24, T89N, R2E; in the city of Dubuque. It is generally described as part of Lot 1 of "A.Y. McDonald Manufacturing Place." The 8.9-acre site is owned by the state of Iowa and was entered on the Registry in February 1988. The A. Y. McDonald Manufacturing Company operated a gray iron foundry and a brass manufacturing and machining operation on the site from 1896 to 1983. During that time, the company generated over 40 million pounds of sand wastes and dusts from air pollution control operations. Most of the wastes were dumped on site, increasing its elevation by an estimated 11-14 feet. The site was purchased by the state of Iowa for a highway project.

### **SITE CLASSIFICATION**

The site was reclassified to "d" in 1989. The site is properly closed and requires continued management.

### **TYPE AND QUANTITY OF HAZARDOUS WASTE**

- **The primary type of hazardous waste are heavy metals**

Over 40 million pounds of sand wastes and dust were disposed on site containing metals from air pollution control operations from an iron foundry. The EPA has determined two wastes dumped at the site are hazardous wastes with the characteristic of EP toxicity. The sand system waste and the pangborn dust both failed the test for lead. The pangborn dust also has high levels of zinc and copper. The sand system wastes and core sand waste were found to contain phenol and cyanide. Soil samples taken on-site had high concentrations of lead, copper, and zinc. Cyanide, cadmium, and polynuclear aromatic hydrocarbons were also found in the soil samples at lower concentrations.

### **SUMMARY OF PUBLIC HEALTH AND ENVIRONMENTAL CONCERNS**

- **The primary public health concern is potential exposure to contaminated drinking water**

The site is located on the floodplain of the Mississippi River. The alluvial aquifer begins a few feet below the surface and extends 175-250 feet to the bottom of the alluvium. The city of Dubuque has five of its nine municipal wells finished in the alluvial groundwater about one mile north of the site. The lower portion of the on-site waste is in contact with the aquifer. There is no evidence, however, that the aquifer has been contaminated by the waste. Surface water samples showed low concentrations of lead. Soil samples contain elevated concentrations of lead, cadmium, copper, and zinc, which may have migrated from the site as windblown particles or as surface water runoff.

### **SUMMARY ASSESSMENT, MONITORING OR REMEDIAL ACTIONS**

The EPA is the lead agency on the site. A Consent Order, effective August 19, 1987, required A. Y. McDonald and the state of Iowa DOT to excavate soil "hot spots," construct a cap over the site, and expand groundwater monitoring, which were completed in June 1988. The Post-Closure Monitoring Plan was initiated in July 1988. The Post Closure Monitoring Plan now requires annual groundwater monitoring.

